

In re Patent Application of:  
**ZHANG ET AL**  
Serial No. 09/835,697  
Filed: 04/16/2001

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In the Specification:

Please replace the Brief Description of the Drawings paragraph, bridging pages 7 and 8 with the following rewritten Brief Description of the Drawings paragraph:

Brief Description of the Drawings

FIG. 1 shows a block diagram of a noise measurement circuit according to the present invention;

~~FIG. 1A shows a timing diagram of an NTSC standard vertical synchronization interval;~~

FIG. 2 shows a carrier recovery demodulator for use in the noise measurement circuit of FIG. 1;

FIG. 3 shows a square law demodulator for use in the noise measurement circuit of FIG. 1;

FIG 4A shows a first embodiment of a carrier recovery block for use in the carrier recovery demodulator of FIG. 2;

FIG 4B shows a second embodiment of a carrier recovery block for use in the carrier recovery demodulator of FIG. 2;

FIG. 5A shows an information signal extractor for use in connection with the noise measurement circuit of FIG. 1 that employs a carrier recovery demodulator;

FIG. 5B shows an information signal extractor for use in connection with the noise measurement circuit of FIG. 1 that employs a square law demodulator;

FIG. 6 shows an exemplary embodiment of an analog circuit

for use in the noise measurement circuit of FIG. 1; and

FIG. 7 shows a partial frequency response of an exemplary noise signal estimate generated by the noise measurement circuit of FIG. 1.

Please replace the paragraph beginning on page 10, line 7, with the following rewritten paragraph:

In particular, the vertical synchronization interval is a portion of an NTSC standard television signal that has a predictable signal pattern which is repeated twice per frame in the television signal, or sixty times per second. ~~Fig. 1A shows a timing diagram of an exemplary vertical synchronization interval.~~ All of the vertical synchronization intervals of a television signal have substantially the same signal pattern, and occur at the same point of each video frame within the signal. In other words, the vertical synchronization signal occurs at regularly occurring intervals. In the present embodiment, the select portion of the television signal corresponds to either, but not both, of the vertical synchronization intervals in each television signal frame. The use of only one of the vertical synchronization intervals allows twice as much time for processing the select portion of the signal as would be available if both vertical synchronization intervals were used. Those of ordinary skill in the art may readily employ faster processing devices or other modifications that would make the use of both vertical synchronization intervals advantageous.

Please replace the paragraph bridging pages 31 and 32 with the following rewritten paragraph:

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In particular, to carry out the functions described below, the information signal extractor 20 requires that the start of the vertical synchronization interval (~~see FIG. 1A~~) occur at a specified sample, for example, the tenth sample of the digital signal segment. However, the gating signal generator 28 of FIG. 1 is in practicality not capable of insuring that the vertical synchronization interval starts precisely at the same sample in every digital signal segment. In fact, the start vertical synchronization interval in the present embodiment may vary up to 10 microseconds within the digital signal segment, or 100 samples. Accordingly, the synchronizer 302 is employed to provide sufficient delay to ensure that the vertical synchronization interval always starts on the same sample within the digital signal segment. To this end, the synchronizer 302 may suitably be a match filter that performs a correlation with an ideal vertical synchronization interval to detect the beginning of the vertical synchronization interval in the input signal BASEBAND. Those of ordinary skill in the art may readily implement such a match filter. It shall be noted that the synchronizer 302 does not affect that spectral qualities of the signal BASEBAND in any way.